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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,306	07/29/2003	Yasuhiro Matsunuma	P 0305305 H7958US	6432

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EXAMINER

RIDER, JUSTIN W

ART UNIT	PAPER NUMBER
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2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/629,306

Applicant(s)

MATSUNUMA, YASUHIRO

Examiner

Justin W. Rider

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: Application filed 29 July 2003. Claims 1-14 are pending.

Claim Objections

2. Claims 6, 9, and 10 are objected to because of the following informalities: On lines 6, 6, and 8 of claims 6, 9, and 10 respectively, "other process" should be either --an other process-- or --other processes-- to more accurately reflect the claimed invention. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation of deciding combining points "without overlapping with others within the overlapping sections" is unclear in its intent. It would appear, as per the examiner's interpretation, that when an overlap portion is determined on one of two adjacent frames, that the overlapping portion is discarded and then the two frames are recombined based on an optimal recombination point.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 5, 10 and 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer that permit the computer program’s functionality to be realized. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by **Wu et al. (USPN 6,370,502) referred to as Wu hereinafter.**

Claims 1, 3, and 5: **Wu** discloses an apparatus, system and method for processing audio data, comprising:

- i. a dividing (device) that divides PCM (col. 8, line 29) audio data into plurality of divided data, each divided data having overlapping sections overlapping with previous and following divided data (col. 3, lines 25-27);
- ii. an encoder that encodes the divided data one by one (col. 2, lines 32-34);
- iii. an analyzer that decides combining points where each encoded divided data can be recombined without overlapping with others within the overlapping sections (col. 2, lines 53-57; col. 3, lines 39-41, analyzes boundaries to determine a spot within a frame wherein data can be removed and combined with subsequent frames.); and
- iv. a combining device that combines the divided data at the decided combining points (col. 3, lines 39-41).

Claims 2 and 4: **Wu** discloses an apparatus, system and method for processing audio data as per claims 1 and 3 above, wherein the dividing device divides the PCM audio data by a unit of a frame of encoding (col. 8, lines 57-59).

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by **Fujii** (USPN 5,970,443) referred to as **Fujii** hereinafter.

Claims 11 and 13-14: **Fujii** discloses an encoding and decoding apparatus method and system, comprising:

- i. a dividing device (frame buffer **12**) that divides audio data into a plurality of divided data (Abstract; Fig. 3B; col. 4, lines 50-52);
- ii. an encoding device (encoder unit **1**) that encodes the divided data (Abstract; Fig. 1; col. 4, line 45);
- iii. a transmitter (transmitter unit **2**) that transmits the encoded divided data (Abstract; Fig. 1; col. 4, lines 31-32);
- iv. a detecting (transmitter unit **2**) device that detects a condition of a communication network (Abstract; Fig. 1; col. 4, lines 32-34); and

v. an instructor (bit rate control unit 3) that instructs a bit rate suited for the detected condition of the communication network to the encoder at a time of encoding each divided data (Abstract; col. 4, lines 34-38).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Wu**.

Claim 12: **Wu** discloses an apparatus, system and method for processing audio data, comprising:

i. a dividing (device) that divides PCM (col. 8, line 29) audio data into plurality of divided data, each divided data having overlapping sections overlapping with previous and following divided data (col. 3, lines 25-27);

ii. an encoder that encodes the divided data one by one (col. 2, lines 32-34);

iii. an analyzer that decides combining points where each encoded divided data can be recombined without overlapping with others within the overlapping sections (col. 2, lines 53-57; col. 3, lines 39-41, analyzes boundaries to determine a spot within a frame wherein data can be removed and combined with subsequent frames.); and

iv. a combining device that combines the divided data at the decided combining points (col. 3, lines 39-41).

However, **Wu** points out MPEG AAC data as opposed to MP3 data. It would have been obvious to one having ordinary skill in the art at the time of invention to include the functionality to encode data into a format that represents the state of the art in current technology, which is an obvious design choice based on the situation. One would provide a certain data format for reasons of higher performance (bit rates, compression ratio) as well as other characteristics that enable an encoding scheme to gain maximum performance.

13. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sadri et al.** (US 2002/0165709 A1) referred to as **Sadri** hereinafter in view of **Wu**.

Claims 6, 9, and 10: **Sadri** discloses a system, method and apparatus for the efficient implementation of vocoders, comprising a plurality of parallel processors that encode audio data as well as other processes, comprising:

- i. a plurality of processors that encodes the divided data and execute other process (Paragraph [0008], ‘as utilized in the present invention is that it has multiple parallel processing elements...’);
- ii. a detector (cluster switch) that detects a free processor by watching loading conditions of the plurality of the processors (Paragraph [0008], the cluster switch is used to communicate between the main sequential processor and the parallel processing elements in order to distribute input data among the processors.); and
- iii. a supplier (cluster switch) that supplies the divided data to be encoded to the free processor (Fig. 2; Paragraph [0008]).

However, **Sadri** fails to, but **Wu** does, specifically disclose the following limitations:

i. a dividing (device) that divides PCM (col. 8, line 29) audio data into plurality of divided data, each divided data having overlapping sections overlapping with previous and following divided data (col. 3, lines 25-27);

ii. an analyzer that decides combining points where each encoded divided data can be recombined without overlapping with others within the overlapping sections (col. 2, lines 53-57; col. 3, lines 39-41, analyzes boundaries to determine a spot within a frame wherein data can be removed and combined with subsequent frames.); and

iii. a combining device that combines the divided data at the decided combining points (col. 3, lines 39-41).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to include the teachings of **Wu** in the system of **Sadri** because it provides a higher quality signal by reducing quantization-induced block-discontinuities arising from lossy compression and decompression of audio signals (**Wu**, col. 1, lines 7-11).

Claim 7: **Sadri** in view of **Wu** disclose everything as per claim 6 above. In addition, **Sadri** further discloses a controller that stops (interrupts) one of the plurality of the processors to encode the divided data in order to make the processor execute the other process when the detector detects no free processor when there is a request for the other process (Paragraph [0022], **Sadri** discloses a fetch controller, which provides support for interrupts.). The use of interrupts is a concept that is well-known in the art of computer processing in order to carry out processes based on a need or priority basis. This is done by sending a stop or interrupt command to a processor in order to allow a process to be undertaken that has a higher priority than the job

that was currently running. Therefore, the support of interrupt commands is asserted to be an art recognized equivalent of the claimed limitation of claim 7.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to include the use of interrupt processing in the apparatus of **Sadri** because interrupt process procedures allow for higher priority processes to take precedence over less crucial tasks within a processing environment, which allows for a faster, more efficient completion of encoding tasks.

Claim 8: **Sadri** in view of **Wu** disclose everything as per claim 7 above. In addition, **Sadri** further discloses wherein the other process is a decoding process of the encoded data (Paragraph [0048]; Figs 5 & 6 show both decoder process steps as well as performance specifications for both encoder and decoder within the present system.).

Conclusion

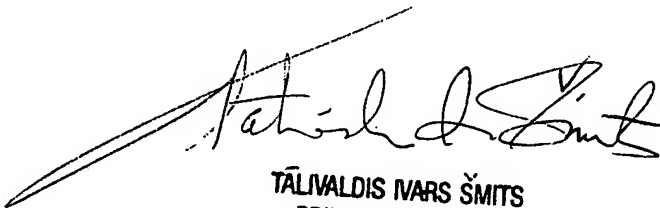
14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **Pan et al. (USPN 5,696,875)**, **Kolesnik et al. (USPN 6,263,312)**, **Miyasaka et al. (US 2001/0021879)**, **Wang et al. (US 2002/0178012)**, and **Aguilar et al. (USPN 6,691,082)** all disclose various encoding processing systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin W. Rider whose telephone number is (571) 270-1068. The examiner can normally be reached on Monday - Friday 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

J.W.R.
05 March 2007



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PRIMARY EXAMINER